Next-Generation Cross-Plotting Techniques for Assessing Reservoir Quality

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Abstract
This study presents a workflow using new high-speed cross-plotting tools to better understand which data relationships are important for reservoir characterization. Combined with powerful graphics card technology, the method enables interpreters to quickly cross-plot multiple seismic attributes, easily visualize the hidden relationships between the attributes and efficiently identify hydrocarbon indicators.

The workflow begins by generating or importing AVO and inversion attributes from horizons and/or volumes, and then cross-plotting them with well information in VisualVoxAt seismic interpretation software. Data clusters are easily identified as colour-coded points in cross-plot space. Digitizing polygons over the data clusters will highlight corresponding points in well, map, section or 3D views. This enables the interpreter to understand which attributes are key to predicting reservoir properties in areas without well data. Conversely, digitized polygons in wells, maps or sections will highlight corresponding data clusters in cross-plots. The results enable the interpreter to understand which attributes are key to discriminating lithology and fluid type.